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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/572,828

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EXAMINER

D'ANIELLO, NICHOLAS P

ART UNIT

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1793

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/572,828	Applicant(s) ISHIKAWA ET AL.	
	Examiner Nicholas P. D'Aniello	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 7-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/21/2006 and 10/16/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-6, drawn to a welding method.

Group II, claim(s) 7-12, drawn to a welded article.

2. The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the welding method of claim 1 is a repair method that must have an initial butt weld where the article of claim 7 can be made by the initial butt weld. Further this type of welded structure is known in the art, such as exemplified in figure 13 of Melville (USP 4,857,697). Therefore there is no contribution to the art; the claims lack a special technical feature and thus lack unity of invention.

3. During a telephone conversation with John J. Kelly on September 3rd 2008 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-6. Affirmation of this election must be made by applicant in replying to this Office action. Claims 7-12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Double Patenting

4. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

5. Claims 1-12 of this application conflict with claims 1-12 of Application No.

11/486,661. 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

6. Claims 1-12 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-12 of copending Application No. 11/486,661. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Melville (USP 4,857,697).

In regard to **independent claim 1**, Melville teaches a welding method for manufacturing welded structures (*having excellent properties to prevent the propagation of brittle fracture occurring in welded joints*; it is Examiner's position that since the weld geometry of the prior art is indistinguishable from that of the claimed welded joint (and similar to those portrayed in applicant's drawings) the welded joint of the prior art would necessarily prevent the propagation of a brittle crack fracture occurring in the welded joint), characterized by the step of forming a repair weld (*having a greater toughness than that of a butt weld and an outer edge, is an intrinsic property of weld geometry*) whose angle Φ , with respect to the longitudinal direction of the butt weld, is not less than 10 degrees and not more than 60 degrees (see figure 13 of Melville, approximately 45° from longitudinal axis), by applying repair welding to a region (*to arrest a brittle crack in a butt-welded joint where a brittle crack is likely to propagate after removing part of the butt-welded joint in said region by gouging or machining*, does not positively limit the scope of the claim) (see column 6 line 50 – column 7 line 13 where a multiple pass welding operation is discussed, i.e. a butt weld and a repair weld).

In regard to **claim 2**, as the weld described by Melville (figure 13) is structurally and patentably indistinguishable from the claimed welding method, the welded article of Melville is reasonably assumed to have excellent properties to prevent the propagation

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of brittle fracture such as a toughness in said repair weld which is at least 20°C lower than the brittle-to-ductile fracture transition temperature of the butt-welded joint.

In regard to **claim 4**, as the weld described by Melville (figure 13) is structurally and patentably indistinguishable from the claimed welding method, the welded article of Melville is reasonably assumed to have excellent properties to prevent the propagation of brittle fracture such as compressive residual stress not less than 1/2 of the yield stress of the welded member developed in a direction perpendicular to the longitudinal direction of the butt weld in a region where said repair weld and butt-welded joint are in contact.

In regard to **claim 5**, the repair welding is applied by controlling so that the angle of the longitudinal direction of at least the last layer of the repair weld bead with respect to the longitudinal direction of the butt weld is not greater than 80 degrees (approximately 45 degrees as seen in figure 13).

9. Claims 1, 2, 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by O'Donnell et al. (US Pub 2004/0069831).

In regard to **independent claim 1**, O'Donnell et al. teach a welding method for manufacturing welded structures (*having excellent properties to prevent the propagation of brittle fracture occurring in welded joints*; it is Examiner's position that since the weld geometry of the prior art is indistinguishable from that of the claimed welded joint (and similar to those portrayed in applicant's drawings) the welded joint of the prior art would necessarily prevent the propagation of a brittle crack fracture occurring in the welded

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joint; additionally O'Donnell et al. discuss the weld's ability to prevent fracture initiation in paragraph [0007]), characterized by the step of forming a repair weld (*having a greater toughness than that of a butt weld and an outer edge*, is an intrinsic property of weld geometry) whose angle Φ , with respect to the longitudinal direction of the butt weld, is not less than 10 degrees and not more than 60 degrees (see figure 3 of O'Donnell et al., repair weld 35 branches out at approximately 45° from longitudinal axis), by applying repair welding 35 to a region (*to arrest a brittle crack in a butt-welded joint where a brittle crack is likely to propagate after removing part of the butt-welded joint in said region by gouging or machining*, does not positively limit the scope of the claim) (see paragraph [0018]) where a multiple pass welding operation is discussed with a center weld 33 (i.e. butt weld) and a surface weld 35 (i.e. repair weld)).

In regard to **claim 2**, as the weld described by O'Donnell et al. (figure 3) is structurally and patentably indistinguishable from the claimed welding method, the welded article of O'Donnell et al. is reasonably assumed to have excellent properties to prevent the propagation of brittle fracture such as a toughness in said repair weld which is at least 20°C lower than the brittle-to-ductile fracture transition temperature of the butt-welded joint.

In regard to **claim 4**, as the weld described by O'Donnell et al. (figure 3) is structurally and patentably indistinguishable from the claimed welding method, the welded article of O'Donnell et al. is reasonably assumed to have excellent properties to prevent the propagation of brittle fracture such as compressive residual stress not less than 1/2 of the yield stress of the welded member developed in a direction

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perpendicular to the longitudinal direction of the butt weld in a region where said repair weld and butt-welded joint are in contact.

In regard to **claim 5**, the repair welding is applied by controlling so that the angle of the longitudinal direction of at least the last layer of the repair weld bead with respect to the longitudinal direction of the butt weld is not greater than 80 degrees (approximately 45 degrees as seen in figure 3).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. The following is a section from the MPEP 2144.05 concerning the obviousness of ranges:

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In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Similarly, a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

13. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Melville (applied above).

In regard to **claim 6**, Melville teaches the welding method in claim 1, in which repair welding is applied by controlling so that the angle of the outer edge of the butt weld with respect to the longitudinal direction of the butt weld is approximately 45 degrees (see figure 13) which overlaps the claimed range.

14. Claim 6 rejected under 35 U.S.C. 103 (a) as being unpatentable over O'Donnell et al. (applied above).

In regard to **claim 6**, O'Donnell et al. teach the welding method in claim 1, in which repair welding is applied by controlling so that the angle of the outer edge of the butt weld with respect to the longitudinal direction of the butt weld is approximately 45 degrees (see figure 3) which overlaps the claimed range.

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15. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Melville as applied to claim 1 above, and further in view of Bertossa (USP 4,575,611).

In regard to **claim 3**, Melville teaches the welding method in claim 1. Claim 3 differs from the reference in calling for said repair weld is provided by applying repair welding to the pertinent region after removing $\frac{1}{2}$ or more of plate thickness from either or both sides of the butt-welded joint by gouging or machining.

However, Bertossa teaches a method of forming a welded joint and the desirability to machine away a defective butt weld 4 (machining at least $\frac{1}{2}$ of the plate thickness, column 3 lines 50-60, figures 1 and 2) prior to applying additional layers 30 of a repair weld (figure 3, column 5 lines 56-63).

It would have been obvious to one of ordinary skill in the art at the time of the invention to machine away at least half the thickness of a defective butt weld in the method of Melville in order to obtain a satisfactory final product such as taught by Bertossa.

16. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Donnell as applied to claim 1 above, and further in view of Bertossa (USP 4,575,611).

In regard to **claim 3**, O'Donnell et al. teach the welding method in claim 1. Claim 3 differs from the reference in calling for said repair weld is provided by applying repair welding to the pertinent region after removing $\frac{1}{2}$ or more of plate thickness from either or both sides of the butt-welded joint by gouging or machining.

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However, Bertossa teaches a method of forming a welded joint and the desirability to machine away a defective butt weld 4 (machining at least $\frac{1}{2}$ of the plate thickness, column 3 lines 50-60, figures 1 and 2) prior to applying additional layers 30 of a repair weld (figure 3, column 5 lines 56-63).

It would have been obvious to one of ordinary skill in the art at the time of the invention to machine away at least half the thickness of a defective butt weld in the method of O'Donnell et al. in order to obtain a satisfactory final product such as taught by Bertossa.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas P. D'Aniello whose telephone number is (571)270-3635. The examiner can normally be reached on Monday through Thursday from 8am to 5pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jessica Ward can be reached on (571) 272-1223. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. P. D./
Examiner, Art Unit 1793

/Kiley Stoner/
Primary Examiner, Art Unit 1793